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(54) INK-JET RECORDING HEAD

(57)Abstract:

PURPOSE: To dispose a large number of nozzles closely to each other to enable displacement elements for generating pressure of ink to act under low drive voltage by using two shape memory alloy displacement elements which are superposed on each other as displacement elements for generating pressure of ink and providing also a heating or cooling means.

CONSTITUTION: When a signal 19 is applied to a heating element 16, a shape memory alloy displacement elements 15 is first heated so as to be displaced toward the side of a pressure chamber 12, whereby the pressure of ink in the chamber 12 rises, thereby causing the ink to be projected in the form of droplets from an ink delivery port 13. And when the signal is cut off, the element 15 is cooled; however, a shape memory alloy displacement element 14 situated outside the element 15 is caused to warp in a

direction opposite to the chamber 12 because of its retarded cooling. As a result, the elements restore their original parallel form or conversely they warp slightly outwardly, so that ink is supplied into the chamber 12 from an ink supply port 11.

